REMARKS

This application has been reviewed in light of the Office Action dated December 23, 2004. Claims 38-45 are presented for examination. Claims 36 and 37 have been cancelled, without prejudice or disclaimer of the subject matter presented therein. New Claims 38-45 have been added to provide Applicants with a more complete scope of protection. Claims 38 and 39 are in independent form. Favorable reconsideration is requested.

The Office Action required a more descriptive title, and an update of the continuing data. These requirements have been complied with by virtue of the amendments to the specification made above.

Claims 36 and 37 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 36 and 37 also were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent 6,815,001 or claim 12 of U.S. patent No. 6,060,113. Moreover, Claims 36 and 37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 3,611,077 (*Smith*) in view of either JP 63-200041 or U.S. Patent 5,052,338 (*Maiorca et al.*).

Without conceding the propriety of these rejections, Claims 36 and 37 have been canceled herein, thereby rendering the rejections moot.[1]

1/ The words "state" and "condition" are not employed in the claims newly added herein, although the non-usage of such terms is not a concession that the terms of the now-canceled claims justified any Section 112 rejection.

Before addressing the added claims on the merits, an aspect of the present invention will first be described.

The present invention provides for an alignment and adjustment of a position of ejecting a liquid onto a plane of a substrate, in case of supplying the liquid discretely or intermittently by an ink jet apparatus. According to the present invention, by means of performing detection of a position on the substrate while moving, relatively to the substrate, both of an ejector of the ink jet apparatus and a detector used in the detection, a technical advantage is achieved in that the liquid can be ejected to the intended position on the substrate with a high degree of accuracy, and this can be completed quickly upon the detecting of the position.

Added independent Claim 38 recites:

"38. A method for producing an electron-emitting device, the device comprising a conductive film including an electron emission region, the method comprising:

a first detection step for detecting a position on a plane of a substrate, to which a liquid containing an element of the conductive film is to be ejected; and

an ejecting step for ejecting the liquid by an ink jet apparatus to the position on the plane of the substrate detected by the first detection step, wherein

the first detection step is performed while moving, relatively to the substrate, both of an ejector of the ink jet apparatus and a detector used in the first detection step."

Smith is relied on in the Office Action as teaching a thin film electron emitter, but the Office Action concedes that *Smith* does not teach or suggest detecting a position on a substrate for a coating material and detecting a state of the droplet supplied. *Maiorca et al.* is relied on in the Office Action as teaching "detection means", and refers merely to continuously supplying a paste onto a substrate by a so-called dispenser.

However, nothing in either of those references would teach or suggest ejecting a liquid onto a substrate by an ink jet apparatus, as set forth in Claim 38. Accordingly, Claim 38 is clearly patentable over *Smith* and *Maiorca et al.*, whether considered separately or in combination.

JP63-200041 discloses ejecting a liquid onto a substrate by an ink jet apparatus, detecting whether or not there is a liquid ejected onto the substrate, and detecting a continuity state of the liquid droplets. However, nothing in JP63-200041 would teach or suggest detecting a position on a plane of the substrate to which the liquid is ejected, and that detection of the position on the plane of the substrate is performed while moving, relatively to the substrate, both an ejector of the ink jet apparatus and a detector for the detection, as recited in Claim 38. Neither is *Smith* seen to teach or suggest those features. Accordingly, Claim 38 is clearly patentable over *Smith* and JP63-200041, whether considered separately or in combination.

Claim 39 is similar in many relevant respects to Claim 38, and also is believed to be clearly patentable over *Smith* and *Maiorca et al.*, and over *Smith* and JP63-200041, whether considered separately or in those respective combinations, for substantially the same reasons as is Claim 38.

The obviousness-type double patenting rejection will now be addressed.

Claim 1 of U.S. Patent No. 6,815,001 recites as follows:

"1. A method of manufacturing an electronic device, comprising the steps of:

moving, relative to each other, a droplet ejecting portion of an ink jet device and a substrate, to which droplets are to be ejected, in a direction along a droplet-

receiving surface of the substrate, and detecting a distance between the droplet ejecting portion and the droplet-receiving surface of the substrate; and

ejecting toward a plurality of portions separated mutually on the substrate at plural times at a predetermined time interval the droplets of a liquid containing material for forming the electronic device, wherein the predetermined time interval is controlled based on a result of the detecting, and

wherein the detecting of the distance includes a step of measuring the distances between the ejecting portion and the plurality of portions separated mutually on the substrate."

Claim 12 of U.S. Patent No. 6,060,113 depends from Claim 6 of that patent, which in turn depends from Claim 1 of the patent. Those claims recite, respectively, as follows:

"12. A method of producing an electron-emitting device according to claim 6, wherein, on the basis of information obtained by detecting the state of a supplied droplet, the ejecting condition for another ejecting position is adjusted.

6. A method of producing an electron-emitting device according to claim 1, said forming step comprising the steps of:

supplying one or more droplets of liquid onto the substrate, the liquid including a material constituting the electrically-conductive thin film;

detecting the state of the supplied droplets; and

supplying one or more droplets again on the basis of the obtained information of the state of the supplied droplets.

1. A method of producing an electron-emitting device comprising the step of forming a pair of electrodes and an electrically-conductive thin film on a substrate in such a manner that the pair of electrodes are in contact with the electrically-conductive thin film, and forming an electron emission region using the electrically-conductive thin film,

wherein liquid containing a metal or a metal compound is supplied in liquid droplet form ejected from nozzle means in an ink-jet system onto the substrate thereby forming the electrically-conductive thin film."

It is respectfully submitted that none of the foregoing-quoted claims recites or suggests that detecting of a position on a plane of the substrate to which a liquid is to be ejected, is performed while moving, relatively to the substrate, both an ejector of the ink jet apparatus and a detector for the detection, as recited in Claims 38 and 39. Accordingly, Claims 38 and 39 are each deemed to be patentably distinct from the claims relied on by the Office Action, from U.S. Patent Nos. 6,815,001 and 6,060,113.

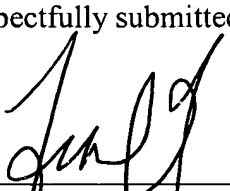
A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other added claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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